

Switching from new steel drums to alternatives

1. In this appendix, we present evidence on switching from steel drums to other industrial packaging and vice versa, including:
 - Greif analysis of the impact of steel and plastic costs on steel drum volumes;
 - data on market trends for steel drums, plastic drums and IBCs (volumes and prices);
 - data provided by Greif and Blagden on customer switching and customers won or lost; and
 - evidence from the customer survey and from customers and competitors.

Greif analysis of the impact of steel and plastic costs on steel drum volumes

2. Greif submitted an analysis (prepared by LECG) on the extent to which sales of steel drums are affected by changes in the relative cost of steel and plastic drums. This analysis shows that, over the period 1994 to 2005, in most years annual European steel drum volumes have increased when the steel input costs decreased relative to plastic input costs, and decreased when steel costs increased relative to plastic costs. The paper concluded that the EU demand for steel drums depends on the relative price of steel and plastic drums, and therefore that these are part of the same relevant market.
3. However, this conclusion should be subject to certain caveats:
 - The analysis is based on changes in relative input costs (in the absence of data on the relative prices of steel and plastic drums). This approach is valid so long as plastic and steel drum prices vary proportionately to input prices. [✂]
 - The analysis is based on European data. When the same analysis was applied to UK data, the result was inconclusive. The paper explained this with reference to

the general decline in UK steel drum volumes, which could not be disentangled from relative price effects.

- We have some reservations about the reliability of the data provided by SEFA on volume sales used in this analysis. SEFA told us that the figures had a margin of error of 5 to 10 per cent, for a number of reasons: it did not always get input from all members in each year; there could be mistakes in reporting; and there were variations in membership from year to year (SEFA told us that, in 2000 and 2001, the EU data contained sales by 14 member countries, 13 in 2002, and 12 from 2003).

4. In the absence of data on UK and European steel drum and plastic drum prices, the paper used data on steel input prices (the MEPS index) and plastic input prices (the HDPE index) as a proxy for the output prices. The paper argued that there was a correlation between the MEPS EU steel price and Greif's price per drum. However, the relationship is far from clear (see Figure 1 below, which reproduces Figure 2 of Greif's analysis). Between Q2 2002 and Q4 2003, Greif's drum prices fell in real terms, even though steel prices increased; between Q4 2003 and Q4 2004 Greif's prices increased with input prices. However, again from Q1 2005 they moved in different directions. Therefore, the use of steel input prices as a proxy for steel drum output prices may not always be satisfactory.

FIGURE 1

[✂]

Source: Greif.

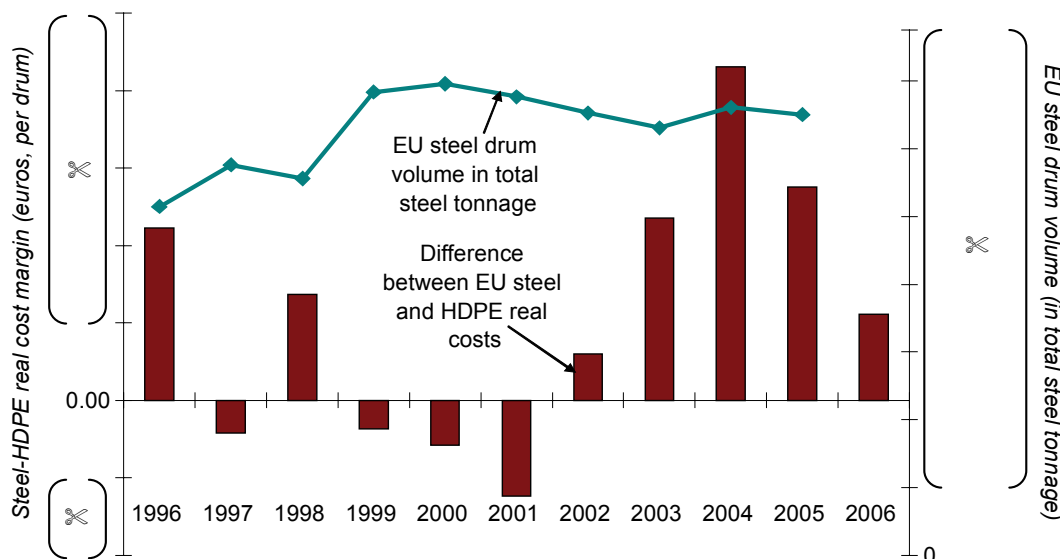
Note: [✂]

5. With these caveats, the analysis shows a correlation between changes in the relative price of steel and plastic input costs and EU steel drum volumes: EU steel drum volumes increase when plastic costs increase relative to steel, and vice versa, in six out of the nine years analysed (see Figure 2). It should be noted that, in 2004 (the

year in which steel drum prices increased in line with steel costs according to Figure 1), volumes sold increased even though steel costs increased relative to plastic costs. Also the analysis looked only at changes in steel drum volumes rather than changes in volumes of steel drums relative to volumes of plastic drums. Indeed, there is no official data on sales of large plastic drums.

FIGURE 2

Steel-HDPE real cost margin and EU steel drum volume (in total steel tonnage)



Source: Greif.

Note: Greif estimated the volume for 2005 by annualizing the volume for the first six months. Data includes steel drums 185 to 250 litres. Greif assumed that 17.5kg of steel is used per steel drum and 8.5kg of HDPE per plastic drum. For the EU level PPI Greif have used the Total industry (excluding construction) PPI to adjust for inflation, with a base year of 2000.

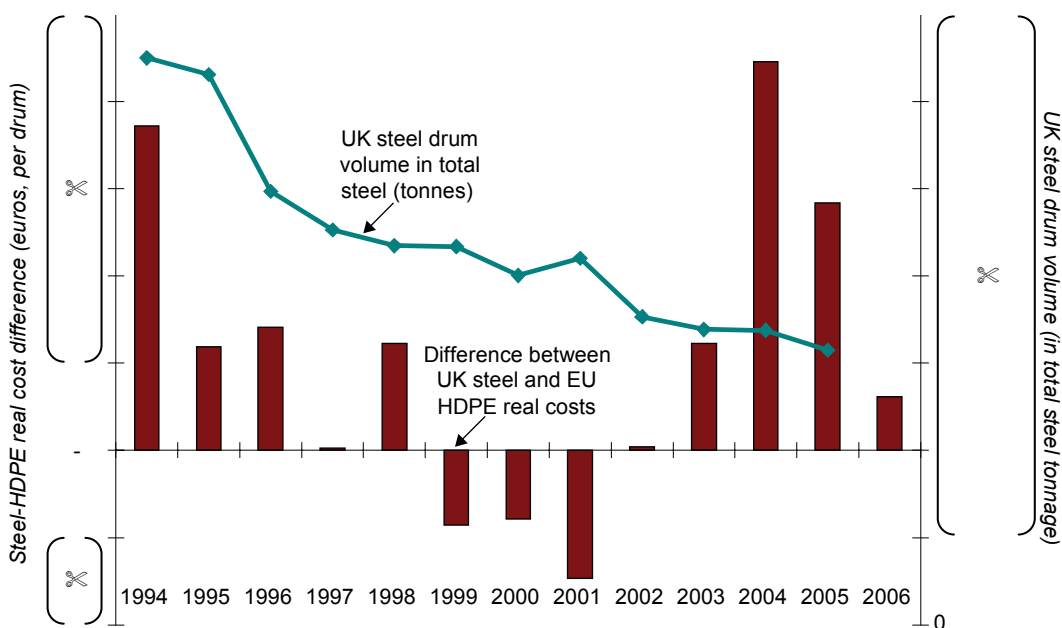
- It was not possible to deduce elasticities from this analysis because of lack of data on steel and plastic drum prices. Based on data on average EU prices of steel drums for 2002 to 2005, Greif estimated the changes in steel drum prices relative to plastic drum prices implied by changes in the cost of steel relative to plastic. This showed that changes in drum prices did not always move with changes in costs (in 2003 and 2005, EU average prices decreased even though there was an increase in input costs).

7. Greif conducted a similar analysis using UK volume data. The results were less conclusive because steel volumes have been falling in every year in the UK except 2001, and Greif did not have data on the relative share of steel and plastic drum sales. The paper explained this fall in steel drum volumes by the general fall in demand for steel drums in the UK due to the decline in manufacturing.

8. Greif argued that ‘there is still some evidence that the volume of steel drums sold is affected by the cost differential relative to plastic’. Indeed, Figure 3 suggests that the periods of strong increases in prices of steel relative to plastic were generally associated with steep falls in volumes of drums sold, although there are some exceptions (notably 1997, where a strong fall in the price of steel relative to plastic was associated with a 9 per cent fall in volume sales).

FIGURE 3

Steel-HDPE real cost difference vs UK steel drum volume (in total steel tonnage)



Source: Greif.

9. The analysis done by Greif therefore showed a correlation between EU sales of steel drums and the cost of steel relative to plastic. But the correlation was not clear for

UK sales. The analysis was limited by of lack of data on steel and plastic drum prices, as well as lack of data on volumes of plastic drums sold, and because of the imprecision in the data provided by SEFA on steel drum sales. For this reason, we undertook an analysis of UK steel and plastic drum volumes using data on drum prices.

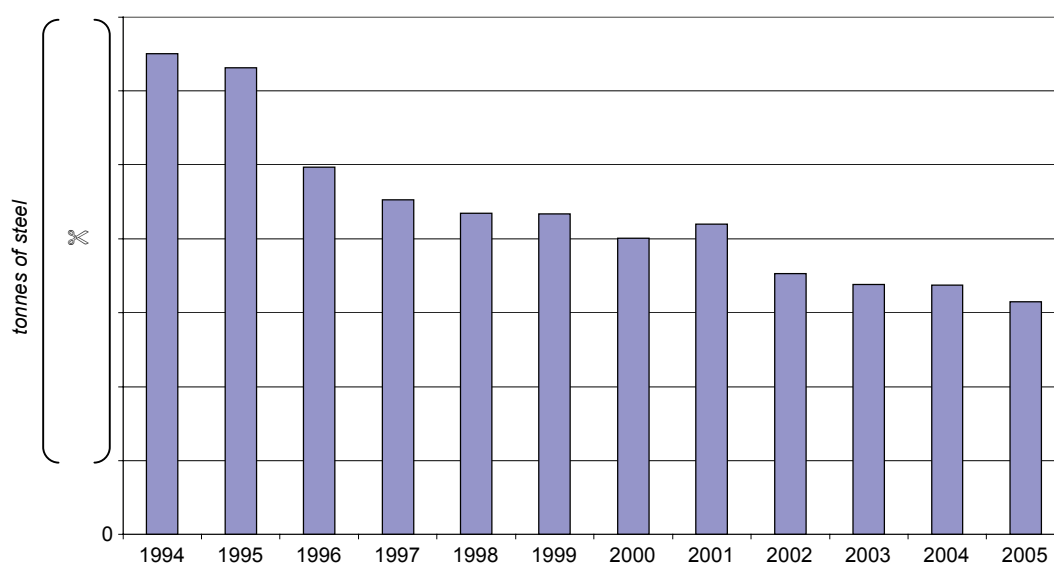
Trends in pricing and volumes of large steel drums, large plastic drums and composite IBCs

- 10. The demand for large steel drums has been decreasing in the UK over the past ten years (by around 40 per cent according to IPA estimates). In the same period, prices of steel drums have been increasing; driven by increases in the input costs of steel of about 40 per cent in real terms over the same period.

- 11. Data provided by SEFA to the parties is set out in Figure 4. It shows the changes in large steel drum volumes in the UK, over a 12-year period (1994 to 2005). The estimates compiled by SEFA show a steep decline in steel drum sales. Between 2003 and 2005, they show a 7 per cent decline in UK sales.

FIGURE 4

UK volume of steel drums (in tonnes)

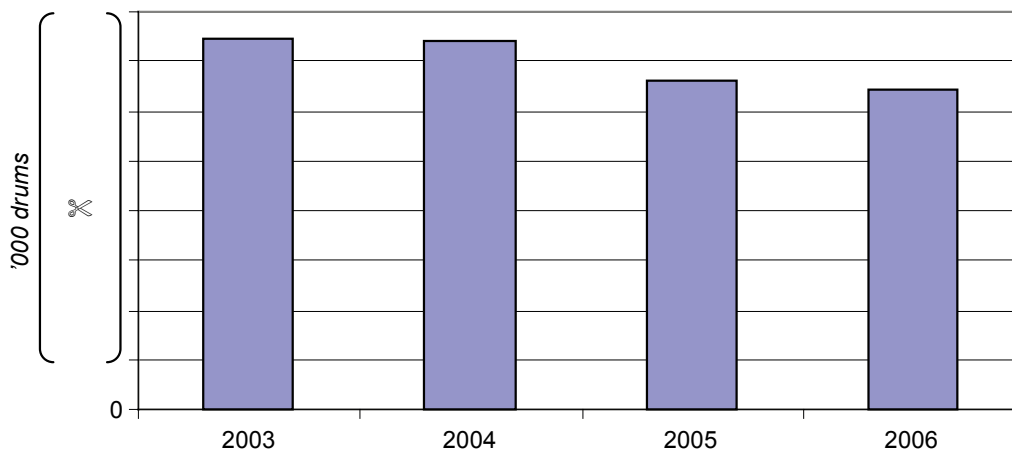


Source: Greif, based on SEFA data

12. Figure 5 shows IPA estimates of the total sales of large steel drums in the UK, compiled from data from its members. This data does not include sales by [X], or imports, and therefore will underestimate total UK sales of steel drums. According to this data, total sales by IPA members of steel drums fell by [X] per cent over four years, from [X] million in 2003 to [X] million in 2006.

FIGURE 5

IPA data on volumes of large steel drums sold in the UK



Source: IPA.

13. We compiled our own estimate of the total sales of new large steel drums in the UK by asking all UK manufacturers to provide data on their annual sales of new large steel drums. This is reproduced in Table 1. According to this data, total UK sales of large steel drums were [X] million in 2006. We believe that this is a more reliable estimate of total sales of new large steel drums, as it includes sales by [X], which are not included in the IPA data. Although imports are not included, these appear to be marginal at present (see Appendix E). Between 2003 and 2006, sales fell by [X] per cent, from [X] million to [X] million. Most of this fall was in 2005.

TABLE 1 Total sales of new large steel drums by UK manufacturers, 2002 to 2006

	'000 drums					
	2002	2003	2004	2005	2006	
Blagden	(
Greif						
R&W				✂		
Metal Drum						
AW Stokes						
T&D	[✂]	0	0	
Total UK sales of large steel drums	[✂]	
Year-on-year changes in market size (%)		-3	2	-10	-2	

Source: CC, based on data on calendar year sales provided by Greif, Blagden, Metal Drum, AW Stokes and Ramsden and Whale.

14. Greif estimated that whilst sales of large steel drums had decreased in the UK, sales of large plastic drums had grown from approximately [✂] units in 2001 to [✂] units in 2006. However, Harcostar (the leading supplier of large plastic drums in the UK, with a share of sales of around [✂] per cent) told us that the total volumes of plastic drums sold in the UK were of the order of [✂] million units per year, and that these volumes had remained broadly static over the past three to five years. Harcostar told us that growth in plastic drums at the expense of steel had been offset by switching to IBCs and by the decline in the UK manufacturing base.

15. Volumes of IBCs sold in the UK have increased in the past five years. Greif estimated that volumes of IBCs sold in the UK grew from [✂] units in 2001 to [✂] units in 2006. IBCs contain about five times the amount of product that can go into a steel drum, and therefore on a 'like-for-like basis', total IBC sales in the UK would be equivalent to [✂] million drums in 2006 (close to the total sales of steel drums of [✂] million units).

16. The IPA also provided estimates on total sales of composite 1,000-litre IBC sales (including both new IBCs and reconditioned IBCs) and sales of large plastic drums

(100 to 250 litres). These are shown in Table 2. This shows an overall increase in IBC sales by [redacted] between 2003 and 2006.

TABLE 2 IBC sales volumes

	'000 units			
	2003	2004	2005	2006
1,000 litres (complete manufacture)	[redacted	redacted	redacted
1,000 litres (remake = new inner bottle only)				
Total				
Total volumes in drum equivalent				
Year-on-year change in volumes (%)		4	1	1
Large plastic drums (100–250 litres)	[redacted]	

Source: IPA.

17. The IPA also provided data on sales of reconditioned steel drums. This is shown in Table 3. According to the IPA data, sales of reconditioned drums decreased from [redacted] million in 2003 to [redacted] million in 2006 (a [redacted] per cent fall). As set out in paragraph 7.3 of the provisional findings, we were told that there was a shortage of steel drums suitable for reconditioning. This is likely to explain the drop in sales.

TABLE 3 Sales of large reconditioned drums

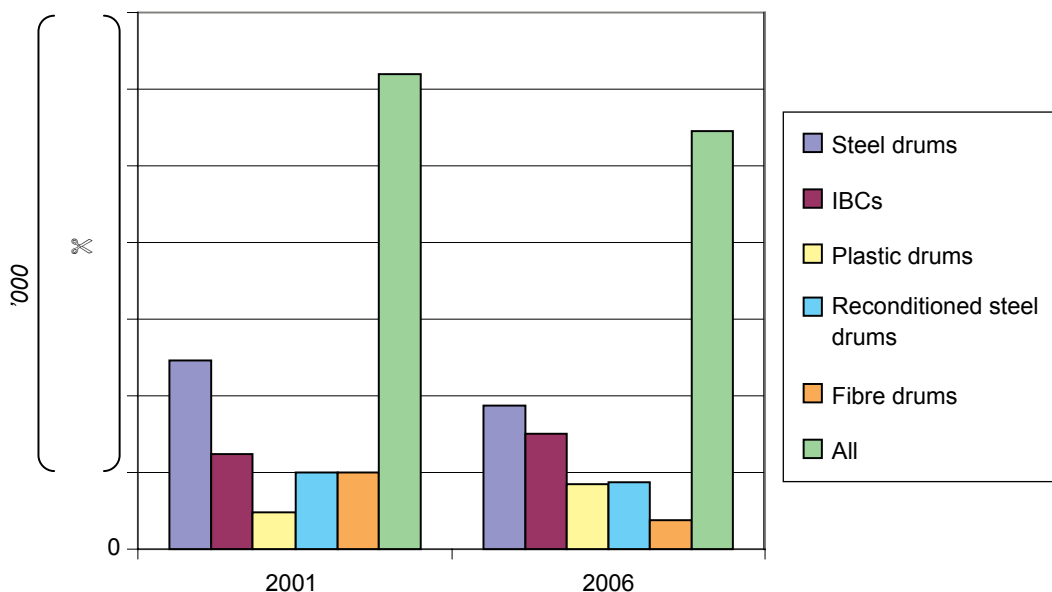
	'000 drums			
	2003	2004	2005	2006
Sales of large reconditioned drums	[redacted	redacted	redacted
Year-on-year change (%)				

Source: IPA.

18. Figure 6 shows Greif's estimates of the changes in volumes of IBCs, new large steel drums, reconditioned large steel drums, fibre drums and large plastic drums sold in the UK between 2001 and 2006. These suggest that overall demand for these types of packaging has declined by [redacted] per cent over five years, from [redacted] million to [redacted] million drums; and that IBC and plastic drum sales have risen at the expense of new and reconditioned steel drum sales and fibre drum sales.

FIGURE 6

Volumes sold of IBCs, plastic drums, fibre drums and steel drums in the UK



Source: Greif.

Note: IBC volume sales have been multiplied by 5 in order to make them comparable to volumes of large steel and large plastic drums.

19. Table 4 shows the CC's estimates (based on data from manufacturers and the IPA) of annual sales of different types of packaging for the years 2003 to 2006.

TABLE 4 Annual sales of large packaging, 2003 to 2006

	'000 drums sold			
	2003	2004	2005	2006
New large steel drums				
Reconditioned large steel drums				
IBCs*				
Large plastic drums			†	†
Total				

Source: CC, based on data provided by steel drum manufacturers and the IPA.

*The unit for IBC sales is [Number of IBCs sold *5].

†We do not have data on sales of large plastic drums in 2005 and 2006; these figures are based on what we were told by the IPA and Harcostar of a broadly flat market and by Greif of sales of around [£] million in 2006; if there had been some growth in plastic drum sales, we believe that is unlikely to have been higher than 5 per cent in each year—which would not make a material difference.

20. In 2005, sales of new steel drums dropped by [£], and sales of reconditioned large steel drums by [£]. IBC sales appear to have increased by the equivalent of [£] drums. We do not have data on plastic drum sales in 2005 and 2006. However, we

understand from Harcostar and the IPA that these did not increase materially. Some sales of steel drums may have been lost to other types of packaging which are not shown here. However, we heard from a number of sources that a significant proportion of the losses was due to the overall decline in the demand for large packaging by companies in the UK.

Prices

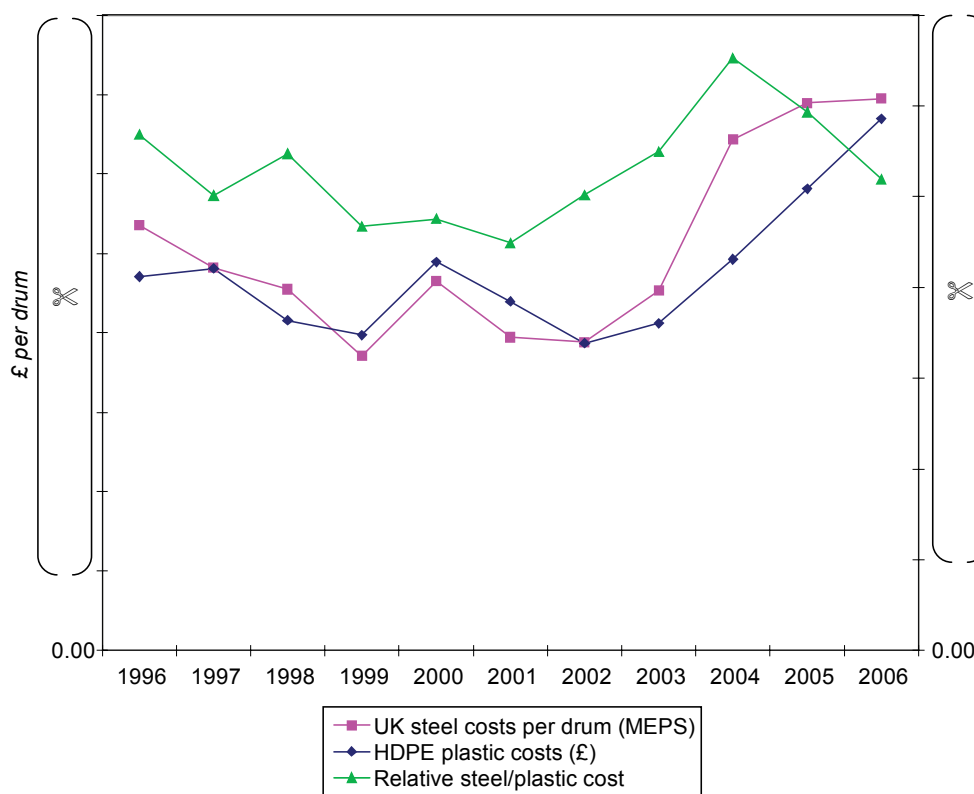
21. Steel drum prices have increased in the past five years, driven by increases in the cost of steel. Plastic drum prices have also increased driven by increases in the cost of HDPE (the main input in production of plastic drums). IBC prices have not increased. We were told that although both steel and HDPE are inputs to the production of IBCs, increasing competition between IBC manufacturers had tended to drive prices down.

Input prices (steel and plastic)

22. Figure 7 shows the changes in UK steel input costs (based on the UK MEPS index), the changes in plastic input costs (based on the EU HDPE index), and the changes in the cost of steel relative to plastic inputs. The gap between steel and plastic input cost per drum was at its highest in 2004, and subsequently decreased. Figure 7 also shows that, currently, the gap between steel and plastic costs is relatively low.

FIGURE 7

Changes in steel and plastic main input costs



Source: CC, based on data provided by Greif

Note: HDPE EU index was converted into pounds using the average annual exchange rate in each year.

23. Based on the data on changes in the prices of the main inputs to steel and plastic drums, we attempted to calculate the implications of these changes for the prices of steel drums and plastic drums in Table 5. We assumed that drum prices only change to reflect the change in the material input costs of producing them, and that their price changes in the same year as the change in input costs. The assumption that drum prices only change to reflect changes in the material input costs is a bold assumption: other factors are likely to influence the pricing of drums. However, we were told by the parties that many customer contracts had price clauses that enabled revision of steel drum prices upwards in line with the MEPS index on a quarterly basis, and therefore we would expect drum prices to change in the same direction as input prices. The estimates below are therefore purely illustrative, and provided in

order to ensure that the data on steel and plastic drum prices analysed in paragraph 25 onwards is broadly consistent with the data on input cost changes.

24. Table 5 tells us that, if drum prices had increased exactly with material costs, the increase in steel drum prices would have been around 5 per cent in 2003 and 14 per cent in 2004. The price of steel drums would have increased relative to the price of plastic drums in 2004 by around 8 per cent, and decreased by around 3 per cent in 2005 and 6 per cent in 2006.

TABLE 5 Changes in steel and plastic prices and implied changes in drum prices

Year	Cost of steel per steel drum (based on MEPS UK nominal steel prices) £	Cost of HDPE per plastic drum (based on EU HDPE index) £	Year-on-year change in steel cost per drum £	Year-on-year change in HDPE costs per drum £	% change in price of steel drum (assuming a price of around £14) %	% change in price of plastic drum (assuming a price of around £14) %	Implied increase in price of steel drums relative to plastic drums %
2001							
2002							
2003							
2004							
2005							
2006							

Source: CC, based on data provided by Greif.

Drum prices

25. The parties provided data on the prices of the different types of steel drum they produced. In Table 6, we show Greif and Blagden's average price per drum for all large steel drum sales for calendar years 2002 to 2006, as well as the average price per plain tight-head drum for calendar years 2003 to 2006 (tight-head plain drums account for the majority of sales of large steel drums in the UK). [redacted].

TABLE 6 **Blagden and Greif average prices per drum**

	£				
	2002	2003	2004	2005	2006
Blagden all large steel drums	-				
Blagden large plain tight-head steel drums	-				
Greif all large steel drums					*
Greif large plain tight-head steel drums	-	†			*
			✂		<i>per cent</i>
<i>Year-on-year changes</i>					
Blagden all large steel drums					
Blagden large plain tight-head steel drums					
Greif all large steel drums					
Greif large plain tight-head steel drums					

Source: CC, based on Greif and Blagden data, calculated over calendar years.

*Average price for January 2006 to October 2006.

†Greif only provided data on prices of tight head drums from November 2003 onwards, and therefore this figure is the average revenue over November and December 2003.

Note: Average prices are calculated as total revenue divided by total volumes in each period.

26. We were also provided with data on prices of large plastic drums, IBCs and reconditioned large steel drums by Harcostar, Schütz and pack2pack. Harcostar is the largest supplier of large plastic drums in the UK (with a share of around [✂] per cent); Schütz is the largest supplier of IBCs in the UK (with a share of around [✂] per cent); pack2pack is the largest supplier of reconditioned drums in the UK.

TABLE 7 **Large plastic drum, reconditioned steel drum and IBC prices**

	£				
	2002	2003	2004	2005	2006
Harcostar large plastic drum average prices					
Schütz IBC average prices					
pack2pack average prices for washed steel drums					
pack2pack average prices for furnaced steel drums					
<i>Year-on-year changes (%)</i>					
Harcostar large plastic drum average prices					
Schütz IBC average prices					
pack2pack average prices for washed steel drums					
pack2pack average prices for furnaced steel drums					

Source: CC, based on data provided by Harcostar, Schütz and pack2pack.

Note: Average prices are calculated as total revenue divided by total volumes in each period.

27. Table 8 compares the changes in the prices of drums (calculated from the data we obtained on new steel drum and plastic drum prices) to changes in the prices that

would be implied if drum prices only changed to reflect changes in steel or HDPE costs. [✂]

TABLE 8 Changes in plastic and steel drum prices

	<i>per cent</i>			
	2003	2004	2005	2006
Large plastic drum <i>Change implied by plastic cost changes*</i>	(
Blagden large plain tight-head steel drum <i>Change implied by steel cost changes*</i>			✂	
Greif all large steel drums <i>Change implied by steel cost changes*</i>				

Source: CC, based on data provided by Greif, Blagden, and Harcostar.

*These values should only be interpreted as indicative as they are based on approximations.

28. In Table 9, we relate changes in prices of drums to the changes in volumes of steel drums sold. The data on prices of steel drums and volumes is based on the parties' (and other UK manufacturers') data on their sales. For Blagden prices, we show large plain tight-head drum prices as these are more comparable over time than average drum prices. For Greif, we show average large steel drum prices, as we only have data on Greif's tight-head drum prices for 2003 to 2006 (but it can be seen from Table 6 that, in those three years, changes in Greif's tight-head prices have been very similar to changes in Greif's average prices for all large steel drums). The data on large plastic drum prices, IBC prices and reconditioned drum prices is also based on manufacturers' own data; in each case the market leader provided the pricing data. The estimates on volumes of new large steel drums are based on each manufacturer's sales; the estimates on volumes sold of IBCs, reconditioned drums and plastic drums are based on IPA estimates.

TABLE 9 Changes in prices and in volumes, 2003 to 2006

	2003	2004	2005	2006
<i>Price changes (%)</i>				
Harcostar large plastic drum				
Schütz IBC average prices				
pack2pack average prices for washed large steel drums				
pack2pack average prices for furnaced large steel drums				
Blagden large tight-head steel drums				
Greif all large steel drums				
<i>Change in price of steel drum minus change in price of plastic drums (%)</i>				
Based on Blagden prices				
Based on Greif prices				
<i>Change in price of steel drums minus change in price of IBCs (%)</i>				
Based on Blagden prices				
Based on Greif prices				
<i>Changes in volume sales</i>				
New steel drum sales (%)				
New steel drum sales ('000 drums)				
IBC sales (%)				
IBC sales growth (number of IBCs, in drum equivalents and in '000)				
Reconditioned drums sales (%)				
Reconditioned drums sales ('000 drums)				
Large plastic drum sales (%)			*	*
Large plastic drum sales ('000 drums)			*	*

Source: CC, based on data provided by Greif, Blagden, MDC, A W Stokes, Ramsden and Whale, Harcostar, Schütz, IPA.

*These are our estimates based on information from IPA and Greif; if there had been some growth in plastic drum sales we believe (based on the information provided by Harcostar on its sales), that is unlikely to have been higher than 5 per cent in each year—which would not make a material difference.

29. There appears to be an inverse relationship between the changes in the price of new large steel drums relative to the price of large plastic drums, and changes in volumes sold of new large steel drums, with a one-year lag. The one-year lag is consistent with the existence of switching costs for customers, as discussed below. [✂]

30. The relationship between changes in prices of IBCs and changes in prices of new large steel drums is less clear. New large steel drum prices have been going up compared with IBC prices throughout the period, but the estimates on the total growth of IBC sales suggest that only a small proportion of the lost new large steel drum sales was switched to IBCs.

31. Regarding reconditioned large steel drums, new large steel drum prices have increased relative to prices of reconditioned drums in all years except for 2006. Reconditioned drum volumes decreased relative to new steel drum volumes in 2003, and then remained fairly stable compared with volumes of new steel drums. As set out in paragraph 7.3 of the provisional findings, we were told that the supply of reconditioned drums had been limited in the recent years because of shortages in the availability of steel drums to be reconditioned. This may explain why new large steel drum volumes could not switch to reconditioned large steel drums.
32. Overall, this analysis would suggest that sales of new large steel drums have declined as large steel drum prices have increased. There was some substitution to large plastic drums and IBCs in response to the increase in the price of new large steel drums relative to large plastic drum prices and IBC prices. However, the data also suggests that the substitution for plastic (and IBCs) in response to changes in relative prices is lower than the critical loss level (which was calculated as [redacted] to [redacted] per cent loss in volume in response to a 5 per cent price increase). In 2004, large steel drum prices increased by 10 to 13 per cent relative to large plastic drum prices, and this was followed by a 10 per cent fall in new large steel drum volumes in 2005. Part of this fall in volumes is likely to be due to a fall in overall UK demand for large packaging rather than to substitution. Indeed, sales of IBCs and of large plastic drums do not appear to have increased as much as large steel drum volumes have decreased.

Current price differential between steel, plastic and IBCs

33. According to the data in Table 5, at present the differential in steel and plastic input costs is around £[redacted] per drum. This differential is small compared with the levels that have been reached in the recent past. In 2004, the differential in costs reached its maximum at £[redacted] per drum. This would suggest that, at current plastic drum prices,

steel drum prices could increase by more than £[x] per drum before reaching the differential observed in 2004; an [x] per cent increase.

34. We also did a calculation based on current prices of new large steel and large plastic drums. Based on the data on drum prices in Tables 6 and 7, Table 10 shows by how much new large steel drum prices could increase from their current levels (all other things being equal) before reaching the differential that was observed in 2004, which appears to have prompted significant switching away from new large steel drums. Depending on which measure of new large steel drum prices is used, the increase in price of new large steel drums needed to reach 2004 differentials is between £[x] and £[x] per drum—an increase of between [x] and [x] per cent.

TABLE 10 New large steel drum and large plastic drum price differential

<i>Differential between new large steel drum prices and large plastic drum prices (Harcostar)</i>	2003	2004	2005	2006	<i>% increase in 2006 new large steel drum prices in order to reach 2004 differentials</i>
Blagden all large steel drums	())))
Blagden large plain tight head steel drums					
Greif all large steel drums					
Greif large plain tight head steel drums					

Source: CC, based on Greif, Blagden and Harcostar data.

35. With regard to the differential between the price of new large steel drums and the price of IBCs, because new large steel drum prices have increased faster than IBC prices throughout the period, the differentials in prices are at their highest in 2005 and 2006.

Summary of the evidence on market trends for new large steel drums, large plastic drums and IBCs

36. There has been a decline in sales of new large steel drums in the past ten years. This decline has been caused by switching to other packaging (large plastic drums

and IBCs), and an overall decline in the demand for large packaging. The periods of greatest falls in new large steel drum sales were 1997, 2000, 2002 and 2005.

37. Since 2002, UK prices of new large steel drums have increased sharply. The gap between plastic and steel input prices reached its maximum in 2004; since then the gap has declined as plastic input prices increased faster than steel input prices. The same pattern is reflected in new large steel drum and large plastic drum prices: new large steel drum prices relative to large plastic drum prices reached their highest in 2004, and since then the gap has narrowed.
38. The large increase of around 10 to around 13 per cent in prices of new large steel drum relative to prices of large plastic drums and IBCs in 2004 was followed by a 10 per cent ([~~3~~] drums) fall in sales of new large steel drums in 2005. Although there was some switching to IBCs and large plastic drums, IBC sales did not increase strongly, and large plastic drum sales are unlikely to have increased significantly. Much of the overall loss appears to be due to a general decline in sales in the industry.
39. Because of recent increases in HDPE prices relative to steel prices, the gap between new steel drum prices and plastic drum prices is currently at its narrowest in four years. New large steel drum prices could increase by more than 5 per cent relative to large plastic drum prices before reaching the 2004 differential.

Evidence on switching provided by the parties

40. Greif provided data on switching by its larger customers from new large steel to large reconditioned drums, large plastic drums and IBCs, as well as specific examples of customers who had switched to other industrial packaging. Greif told us that the period in which most customers had switched away from new large steel to large

plastic drums was in 2004, when steel prices were at their highest compared with plastic prices. They provided Figure 8 showing the amount of switching by large customers in the period 2004 to 2006. According to this, Greif's losses of large customer business to other types of packaging represented [X] of all losses of large customer business.

FIGURE 8

Greif steel drum losses on major contracts, 2004 to 2006

[X]

Source: Greif.

41. Table 11 shows the losses of large business by Greif to other packaging by type of packaging and year. Total losses of large business to other packaging are equivalent to [X] to [X] per cent of sales in the year. [X]

TABLE 11 Greif losses of large business, 2003 to 2006

	2003	2004	2005	2006
Volumes switched to:				
Fibre				
IBC				
Pallecons*				
Plastic				
Reconditioned				
Total				
Greif total volume sales				
Total losses to other packaging (% of sales)				

Source: CC, based on Greif.

*Pallecon is a trademark TNT packaging product; a metal frame fitted with rigid plastic panels locked on to a metal pallet, containing a disposable bag or liner that may hold 1,000 litres of food products.

42. Blagden also provided information on customer switching. This shows that Blagden's gains and losses of customers to other types of packaging (plastic and reconditioned) are much lower than gains and losses to other steel drum manufacturers. There were also large variations from year to year. [X]

TABLE 12 **Blagden business gained and lost, 2002 to 2006**

	2002		2003		2004		2005		2006	
	Gain	Lost	Gain	Lost	Gain	Lost	Gain	Lost	Gain	Lost
European supply										

✂

Source: Blagden.

Results on switching from the customer survey

43. Customers were asked to estimate the number of times that they had ordered alternative types of containers instead of new large steel drums in the past 12 months. Over 70 per cent of those responding to this question had not switched in the past year. Customers who had switched were asked for an estimate of the proportion of requirements switched to alternatives in the past 12 months. Combining these results with reported annual expenditures implies that, in the previous 12 months, 6 per cent of total order value was switched to alternatives by these respondents.

44. Customers who had switched were also asked which alternative they had switched to: the two most common were IBCs and reconditioned drums, followed by plastic drums. Price was repeatedly mentioned as the main reason for switching.

45. Customers were also asked what, if anything, would currently prevent them from switching from new large steel drums to an alternative type of container (see paragraph 35 of the customer survey report). The large majority of respondents identified barriers to switching to an alternative type of packaging (around 90 per cent of respondents). The majority of these felt that they would be prevented from switching to an alternative because of product requirements and regulations. Almost as many also felt that they would be prevented because of customer specifications and requirements.

46. We asked for estimates of the percentage of orders for all large steel drums, by value, that customers could currently switch to alternative containers. Almost two-thirds of customers said that they could not currently switch any of their requirements to alternatives (see Table 14 of the report). We estimated that around 15 per cent of

annual expenditure on large steel drums currently could be switched to alternatives (see paragraph 37 of the report).

47. Finally, customers were asked what they thought other similar customers would do in the event of a price increase from the merged entity, and what price increase would prompt them to react in the way they had described (see paragraph 48 of the report). 17 per cent of customers who answered this question would want to switch away from the merged entity (either to alternative packaging, or to other suppliers of new large steel drums) in the event of a price increase by the merged entity of 5 per cent or less. A further 22 per cent would seek alternatives to the merged entity. The results of this question are discussed further in paragraphs 48 to 50 of the CC survey report.
48. Greif argued that these results showed that a 5 per cent increase in prices by the merged entity would not be profitable because the total proportion of customers who said they would switch exceeded the critical loss. Whether it exceeds the critical loss would depend on the proportion of orders that customers would switch, and the answers to the survey also showed that most customers who could switch to other packaging could only do so for a proportion of their orders (see paragraph 46 above). In addition, we note that the results of this question do not directly apply to market definition, as customers were asked about reactions to an increase in price by the merged entity rather than to a general increase in the price of new steel drums. The ability for customers to switch to other UK suppliers of new steel drums is discussed in Section 7 of the provisional findings.

Views of third parties on switching

49. We also received evidence from customers in hearings and submissions on past switching to alternative products. This confirmed that some customers had switched

from new large steel drums to IBCs in recent years. We received little evidence from customers of switching to large plastic drums in the recent past.

50. Although it is apparent that few customers will be strictly limited to new large steel drums as a result of transport or other regulations,¹ customers and manufacturers generally identified regulatory requirements and safety as key reasons for preferring steel. Steel drums, in particular tight-head steel drums, were said to perform better in safety tests; they were structurally stronger for stacking during storage and transport, particularly for exports to hot or cold countries; they could withstand pressure better during filling and transport; there was less risk of creasing leading to failure; steel reduced the risks associated with static electricity; and it performed better generally for flammable products and those with low flashpoints.
51. Customers and competitors also expressed views on whether the conversion to IBCs and plastic drums was continuing or had stabilized. Most evidence from customers, as well as evidence from a manufacturer and the IPA, suggested that the bulk of the conversion to plastic drums and IBCs had taken place, and that it would be more costly or more difficult for the remaining steel drum volumes to switch.
52. Mauser, a manufacturer based in mainland Europe, said that 80 per cent of customers who could switch to plastic had done so and that the remaining 20 per cent were reluctant to switch because of the need to change filling equipment; and because of the inability to screen-print artwork on to plastic drums. It estimated that there would need to be a 15 per cent price differential before there would be further switching.

¹In addition to the Carriage of Dangerous Goods Regulations and other transport legislation described in Appendix D, customers also referred to health and safety legislation, including the Dangerous Substances and Explosive Atmospheres Regulations.

53. The entry of Mauser into UK production of IBCs (and plastic drums) might be taken to suggest that it anticipated increased demand for IBCs, but it told us that the primary goal of the new manufacturing facility was to replace current imports of IBCs with UK production.
54. Similarly, entry of Shütz, another manufacturer based in mainland Europe into the production of large plastic drums might be taken to suggest that it anticipated increased demand. It told us that while it had planned to start producing plastic drums in the UK for some time, its move now was prompted by Mauser's plans to start IBC and plastic drum production in the UK.
55. A survey of Greif's customers carried out for the purpose of its internal, 'Strategy Review: Core Business Assessment', dated August 2005, says that in chemicals, there is increased use of IBCs and bulk transport. The document concludes from the results of customer interviews that while there is a willingness to continue to switch to bulk packaging migration is limited by the customers' own clients' reluctance or inability to accept larger packages.

Reconditioned steel drums

56. We heard that some customers were reluctant to use reconditioned drums. Some said that there was a risk that reconditioned drums would contaminate their product with the residues left after reconditioning or might reduce the perceived quality of the product they supplied to customers. Similarly, customers with a strong brand image were disinclined to use anything other than a new drum; this preference was often driven by the end-users' perceptions.
57. A further concern, that led some customers to adopt a policy of not relying on reconditioned drums, even where the drum itself was technically compatible, was

availability and continuity of supply. This concern was confirmed by suppliers. One supplier of reconditioned drums in the UK told us that uncertainty of supply was a barrier to switching to reconditioned steel drums, as its supply of raw materials depended on the supply of used drums, which was declining as the demand for new steel drums is declining. And both it and another supplier told us that because they had difficulty sourcing enough drums for reconditioning, they had to concentrate on delivering reliably to existing customers.

Large plastic drums

58. We were told by the parties and by plastic manufacturers that recent developments in plastics technology would enable an increasing number of substances to be stored in plastic. Some customers confirmed their willingness to trial new technologies. However, other evidence from manufacturers and certain customers suggested that many customers were unwilling to take the risk of switching to new, unproven, plastic containers. In addition, we understand that the technology for producing these types of plastic drum is not currently available in the UK, although one supplier told us that it was planning to manufacture three-layered drums in the UK from July this year, and that prices would be typically [X] per cent below the steel equivalent.
59. Large plastic and large steel drums have slightly different dimensions and for some customers switching between large steel and large plastic drums may require investment in adjustments to filling, emptying or handling equipment, especially where it is highly automated.
60. Greif told us that because large steel and large plastic drums were very similar in size, any changes to customers' handling or filling equipment would be minor. Some of the customers we interviewed agreed. Greif provided examples of customers who had switched without incurring significant costs. It also estimated the costs of

purchasing a dedicated new filling line to be between £25,000 and £32,000. End-users might require a 'parrot-beak' attachment to their fork-lift trucks, which costs around 1,200 euros (approximately £800).

61. Other customers and a plastic drum manufacturer told us that if an investment had to be made in filling and handling equipment to accommodate differences in the dimensions of plastic drums, the switching costs would fall on both customers and end-users.
62. BP told us that costs of switching might be higher for those larger customers who had multiple, highly automated, integrated filling lines installed in a network of plants. It told us that it expected the cost of the new equipment required to fill and handle plastic drums to be in the region of £50,000 to £250,000 per filling location, depending on the extent to which existing equipment was integrated and automated. For BP, because switching would have to be rolled out consistently across its network of plants through Europe, total costs would be substantial and the work would take 12 to 18 months.
63. Shell told us that although it would take perhaps [redacted] to make the technical changes needed to its filling lines, it would take far longer to make a switch from steel drums to plastic drums commercially viable. The initial investment in plastic drums might be recoverable in theory because of their longer life span, but in practice the limitations of the collection and recycling arrangements for plastic drums made it difficult to recoup the initial costs. It believed that it would meet resistance from customers if it were to attempt to switch to plastic drums. The price of steel drums would have to increase by [redacted] before it would consider switching.

IBCs

64. Switching to IBCs would also involve costs of changing filling, handling and storage facilities. These may be more costly than the changes needed for a switch to plastic drums, because of the greater differences of shape and size of an IBC. However, there may be greater cost savings in the longer term as each IBC holds as much as five large steel drums, enabling larger users to reduce handling, storing and filling costs.
65. Greif told us that, because of the longer-term cost advantages and logistics benefits, IBCs would become a very attractive option for current users of new large steel drums, if steel prices were to rise. Greif acknowledged that there were switching costs and that, because of the investment involved, a switch to IBCs would generally be permanent.
66. It may be that the full benefits of switching to IBCs cannot be realized either for customers or end-users until all deliveries are in IBCs. So, even if many end-users would be happy to switch, the purchaser of steel drums would not want to have the cost of running multiple filling lines.
67. Whatever the costs and benefits of switching to the purchasers of drums, a key determinant of their willingness to switch is their customers' preferences. Many customers told us that end-users were not willing to purchase products packed in IBCs.
68. We were told that many end-users were reluctant to change to IBCs. BP told us that IBCs were often unsuitable for customers in developing regions, where manual handling was the norm. We also heard that many end-users, both industrial and at the retail level, needed only small quantities of some high-value products, including,

for example, some fragrances and flavourings and some chemicals, as well as retail products, for example customers buying lubricants for garages. These end-users were not prepared to store or handle anything more than a couple of drums at a time.